

WHAT IS CLAIMED IS:

1. A recording apparatus comprising:

a receiving device which simultaneously receives a  
5 plurality of broadcast video signals;

a multiplexing device which obtains a plurality of  
broadcast video signals from said receiving device,  
packetizes each of the plurality of broadcast video signals  
and converts the packets into time-division multiplexed data;  
10 and

a control device which records said time-division  
multiplexed data in a memory apparatus in packet units using  
a ring buffer method and in the order of recording position,  
and forms chapter units in said memory apparatus from a  
15 specified group of packets for the same program when performing  
records, wherein

said control device which records a new packet to be  
recorded over an old packet in order of recording position  
when the packet length of the packet to be recorded next is  
20 greater than the data length of the recordable area from the  
record-end-position of the newest packet in the recording  
order to the record-start-position of the oldest packet in  
the recording order, and take the recorded area of packets  
whose chapter is equal to the chapter of the old packets to  
25 be the recordable area.

2. The recording apparatus according to claim 1, wherein

said control device records packets as a new chapter in said memory apparatus when the time length of the chapter of said packets to be recorded next is greater than the maximum chapter time.

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3. The recording apparatus according to claim 1, wherein said control device assigns a record sequence number to said chapters that indicates the order of said chapters recorded in said memory apparatus regardless of the program, and saves the relationship between a start record sequence number of the oldest recorded chapter among chapters responding to each packets recorded in said memory apparatus, and a end record sequence number of the newest recorded chapter among them; and

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15 when the packet length of said packet to be recorded next is greater than the data length of the recordable area between said record end position and said record start position, it takes the chapter corresponding to the current start record sequence number to be the oldest chapter of packets, and deletes

20 the data of that chapter from said database unit and updates the start record sequence number of said database unit by increasing it by '1'.

4. The recording apparatus according to claim 3, wherein

25 data for said chapter includes chapter ID(identity), record sequence number, chapter time, chapter start address and chapter end address.

5. The recording apparatus according to claim 3, wherein  
said control device deletes data for one program from  
said database unit when data for all of the chapters of one  
5 program are deleted by deleting the data for said chapter  
from said database unit.

6. The recording apparatus according to claim 5, wherein  
said data of one program includes the program name, program  
10 ID and program time.

7. The recording apparatus according to claim 6, wherein  
said control device creates data for a new program in  
said database unit when recording packets of a new program,  
15 and creates data for chapters of a new program in said database  
unit.

8. The recording apparatus according to claim 3, wherein  
said control device stores the record area start address,  
20 which indicates said record start position, and the record  
area end address, which indicates said record end position,  
in the database unit, and updates said record area end address  
each time a packet is recorded, and updates said record area  
start address each time a packet is recorded over.

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9. The recording apparatus according to claim 3, wherein  
said control device records the chapter ID, information

start address and information end address in said database unit for each information type of programs recorded as packets in said storage unit.

5        10. A control method for a recording apparatus comprising a receiving device capable of simultaneously receiving a plurality of broadcast video signals, the control method comprising:

an obtaining process of obtaining a plurality of broadcast  
10 video signals from said receiving device, putting each of the plurality of broadcast video signals into packets and converting the packets into time-division multiplexed data;

a first recording process of recording said time-division multiplexed data in a memory apparatus in packet units using  
15 a ring buffer method and in the order of recording position, and forming chapter units in said memory apparatus from a specified group of packets for the same program when performing records; and

a second recording process of recording a new packet to  
20 be recorded over an old packet in the order of recording position when the packet length of the packet to be recorded next is greater than the data length of the recordable area from the record end position of the newest packet in the recording order to the record start position of the oldest  
25 packet in the recording order, and takes the recordable area to be the recorded area of a chapter of packets that is equal to that old chapter of packets.

11. An information recording program embodied in a recording medium which can be read by a computer in a recording apparatus, the program making the computer function as:

5 a receiving device which simultaneously receives a plurality of broadcast video signals;

a multiplexing device which obtains a plurality of broadcast video signals from said receiving device, puts each of the plurality of broadcast video signals into packets  
10 and converts the packets into time-division multiplexed data;  
and

a control device which records said time-division multiplexed data in a memory apparatus in packet units using a ring buffer method and in the order of recording position,  
15 and forms chapter units in said memory apparatus from a specified group of packets for the same program when performing records, wherein

said control device which records a new packet to be recorded over an old packet in order of recording position  
20 when the packet length of the packet to be recorded next is greater than the data length of the recordable area from the record end position of the newest packet in the recording order to the record start position of the oldest packet in the recording order, and takes the recordable area to be the  
25 recorded area of a chapter of packets that is equal to that old chapter of packets.